ABSTRACT OF THE DISCLOSURE

Dissipative clamping apparatuses and methods for electrical circuits. In one aspect of the invention, In one aspect of the invention, a method includes switching a power supply input on an energy transfer element, regulating a power supply output by switching the power supply input on the energy transfer element, clamping a voltage on the energy transfer element to a clamp voltage and varying the clamp voltage in response to the power supply input. In another aspect, an electrical circuit includes a dissipative clamp circuit coupled to an input of the electrical circuit. An inductive element is coupled between the dissipative clamp circuit and an output of the electrical circuit. A switch is coupled in series with the inductive element. The dissipative clamp circuit is coupled to provide a clamp voltage across the inductive element, the clamp voltage is provided by the dissipative clamp circuit responsive to conditions at the input of the electrical circuit, the dissipative clamp circuit is coupled to maintain a voltage across the switch below a switch voltage limit.